



Attorney Docket No. IMMR-070/01US

**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of Louis B. ROSENBERG et al.

Serial No.: 09/678,110

Examiner: Alecia Diane Nelson

Filed: October 2, 2000

Art Unit: 2675

Confirmation No.: 4151

For: **ROTARY FORCE FEEDBACK WHEELS FOR REMOTE CONTROL DEVICES**

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**INFORMATION DISCLOSURE STATEMENT TRANSMITTAL**

Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08A for the above-identified patent application.

- In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- In accordance with 37 C.F.R. §1.97(c), also enclosed is:
  - the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
  - a statement as specified in 37 C.F.R. §1.97(e).
- In accordance with 37 C.F.R. §1.97(d), a statement as specified in 37 C.F.R. §1.97(e) and the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) are also enclosed.
- Check No. \_\_\_ in the amount of \$\_\_\_ for the total fee is attached.
- A return receipt postcard is also enclosed.
- Please charge \$\_\_\_ to Deposit Account No. 50-1283 for the total fee. This paper is being submitted in duplicate.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R.  
§§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to  
Deposit Account No. 50-1283.

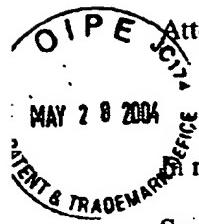
Dated: May 28, 2004

Respectfully submitted,  
**COOLEY GODWARD LLP**

By:

  
\_\_\_\_\_  
Erik B. Milch  
Reg. No. 42,887

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Attorney Docket No. IMMR-070/01US

PATENT

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MAY 28 2004

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**INFORMATION DISCLOSURE STATEMENT  
 UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56, Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97 and 1.98.

- [x] Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08 (1 of 2) is provided on the enclosed CD.
- [x] No copies of the publications listed on the attached Form PTO/SB/08A (2 of 2) are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. 09/049,155 (now U.S. Patent No. 6,128,006) to which the above-identified application claims priority under 35 U.S.C. §120.
- [x] No copies of the publications listed on attached Form 1449 are being provided because the references were listed in an Information Disclosure Statement filed December 10, 2001, for which the Applicants did not receive written confirmation of the references being considered by the Examiner. The references listed on the Form 1449 that are identified by the asterisk (\*) were previously cited by or submitted to the Office in prior Application Serial No. 09/049,155 (now U.S. Patent No. 6,128,006) to which the above-identified application claims priority under 35 U.S.C. §120.
- [ ] No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.

Match and Return

- Publication(s) \_\_\_\_ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to \_\_\_\_ application serial no. and mailed on \_\_\_\_.
- Enclosed is a copy of a non-English publication(s) \_\_\_\_\_. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- Enclosed is a copy of a non-English publication(s) \_\_\_\_\_. English language publication \_\_\_\_ (copy enclosed) claims priority from this non-English publication.
- Enclosed is an explanation of non-English publication(s) \_\_\_\_ for which an English translation is not available.
- Enclosed is an English translation of non-English publication(s) \_\_\_\_ cited in the attached Form PTO/SB/08A.
- Enclosed is a copy of pending U.S. Patent Application Serial No. \_\_\_\_\_.

This Information Disclosure Statement is filed within any one of the following time periods:

- within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;
- before the mailing date of a first office action on the merits; or
- before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.

It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

Dated: May 28, 2004

Respectfully submitted,  
**COOLEY GODWARD LLP**

By:

  
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Erik B. Milch  
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(1 of 2)

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

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Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

3

*Complete if Known*

Application Number	09/678,110
Filing Date	October 2, 2000
First Named Inventor	Louis B. Rosenberg
Art Unit	2675
Examiner Name	Alecia Diane Nelson
Attorney Docket Number	IMMR070/01US

U.S. PATENT DOCUMENTS			
Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (# known)	Publication Date MM-DD-YYYY
A1		6,422,941	7/23/2002
A2		6,160,489	12/12/2000
A3		6,111,577	8/29/2000
A4		5,690,582	11/25/1997
A5		5,575,761	11/19/1996
A6		5,437,607	8/1/1995
A7		5,436,622	7/25/1995
A8		5,283,970	2/8/1994
A9		5,186,695	2/16/1993
A10		5,175,459	12/29/1992
A11		5,165,897	11/24/1992
A12		5,022,384	6/11/1991
A13		4,885,565	12/5/1989
A14		4,484,191	11/20/1984
A15		4,464,117	8/7/1984
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A17		4,262,549	4/21/1981
A18		4,127,752	11/28/1978
A19		2,972,140	2/14/1961

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Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (# known)			
B1	JP	H2-185278			7/19/1990	Taito Corporation	
B2	JP	H4-8381			1/13/1992	Epoch Co. and Key-Planning Co.	
B3	JP	H7-24147			1/27/1995	Sega Corporation	
B4	JP	H5-192449			8/3/1993	Taito Corporation	

Examiner Signature	Date Considered
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<sup>1</sup> EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>2</sup> Applicant's unique citation designation number (optional). <sup>3</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>4</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>7</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

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**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

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Application Number

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First Named Inventor

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<b>OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS</b>		
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	C1	PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
	C2	CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
	C3	WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
	C4	BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
	C5	JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039</i> , August, 1990.
	C6	KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
	C7	AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
	C8	EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
	C9	GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
	C10	PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 <sup>nd</sup> Edition; McGraw-Hill, ISBN 0-07-050187-X, pp. 41-202, 1994.
	C11	"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
	C12	OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
	C13	KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
	C14	LAKE, "Cyberman from Logitech," at <a href="http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html">http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html</a> , 1994.
	C15	"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

Examiner Signature

Date Considered

<sup>1</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.<sup>2</sup>Applicant's unique citation designation number (optional). <sup>3</sup>Applicant is to place a check mark here if English language Translation is attached.

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First Named Inventor	Louis B. Rosenberg
Art Unit	2875
Examiner Name	Alecia Diane Nelson
Attorney Docket Number	IMMR070/01US

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	C16	"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502." Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).
	C17	SCANNELL, "Taking a Joystick Ride," Computer Currents, Boston Edition, Vol. 9, No. 11, November 1994
	C18	YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, Raleigh, NC, July 7-10, 1992
	C19	NOLL, "Man-Machine Tactile," SID Journal, July/August 1972 Issue.
	C20	ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," Ph.D. Dissertation, Stanford University, June 1994.

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Examiner Signature	Date Considered
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PTO/SB/08A (10-01)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet 1 of 1

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Form 1449 (Modified)		Atty Docket No.: IMM1P044A	Application No.: 09/678,110
Information Disclosure Statement By Applicant <i>(Use Several Sheets if Necessary)</i>		Applicant: Rosenberg et al.	
		Filing Date: 10/2/01	Group: 2675

O I P E JCI  
MAY 28 2004  
PATENT & TRADEMARK OFFICE

### U.S. Patent Documents

Examiner Initial	Patent No.	Date	Patentee	Class	Sub-Class	Filing Date
	* 3,919,691	11/11/75	Noll	340	172.5	5/26/71
	* 4,050,265	9/27/77	Drennen et al.	64	11	8/3/76
	* 4,131,033	12/26/78	Wright et al.	74	553	2/18/77
	* 4,477,043	10/16/84	Repperger	244	223	12/15/82
	* 4,560,983	12/24/85	Williams	340	825	9/17/82
	4,692,756	9/8/87	Clark	340	709	7/5/84
	* 4,706,294	11/10/87	Ouchida	381	109	6/10/86
	* 4,712,101	12/8/87	Culver	340	710	12/4/84
	* 4,782,327	11/1/88	Kley et al.	340	365	1/2/85
	* 4,795,296	1/3/89	Jau	414	5	11/17/86
	* 4,800,721	1/31/89	Cemenska et al.	60	393	2/13/87
	* 4,823,634	4/25/89	Culver	74	471	11/3/87
	* 4,868,549	9/19/89	Affinito et al.	340	710	5/18/87
	* 4,935,728	6/19/90	Kley	340	709	11/20/87
	* 4,943,866	7/24/90	Barker et al.	358	335	6/16/89
	* 4,964,004	10/16/90	Barker	360	14.1	6/16/89
	* 4,979,050	12/18/90	Westland et al.	360	14.1	12/2/83
	* 4,983,901	1/8/91	Lehmer	318	685	4/21/89
	* 5,007,300	4/16/91	Siva	74	471	1/22/90
	* 5,044,956	9/3/91	Behensky et al.	434	45	1/12/89
	* 5,095,303	3/10/92	Clark et al.	345	164	
	* 5,107,080	4/21/92	Rosen	200	6	12/1/89
	* 5,138,154	8/11/92	Hotelling	250	231.12	4/4/90
	* 5,139,261	8/18/92	Openiano	273	148	9/18/91
	* 5,146,566	9/8/92	Hollis, Jr. et al.	395	275	5/29/91
	* 5,185,561	2/9/93	Good et al.	318	432	7/23/91
	* 5,186,629	2/16/93	Rohen	434	114	8/22/91
	* 5,189,355	2/23/93	Larkins et al.	318	685	4/10/92
	* 5,193,963	3/16/93	McAfee et al.	414	5	10/31/90
	* 5,204,600	4/20/93	Kahkoska	318	602	2/6/91

Examiner:	Date Considered:
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Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Form 1449 (Modified)

Atty Docket No.:  
IMM1P044AApplication No.:  
09/678,110Information Disclosure  
Statement By Applicant

(Use Several Sheets if Necessary)

Applicant:

Rosenberg et al.

Filing Date:

10/2/01

Group:

2675

MAY 28 2004

## U.S. Patent Documents

Examiner Initial	Patent No.	Date	Patentee	Class	Sub-Class	Filing Date
*	5,220,260	6/15/93	Schuler	318	561	10/24/91
*	5,223,776	6/29/93	Radke et al.	318	568.1	12/31/90
*	5,235,868	8/17/93	Culver	74	471	10/2/91
	5,237,327	8/17/93	Saitoh et al.	341	176	11/14/91
*	5,254,919	10/19/93	Bridges et al.	318	560	3/22/91
*	5,280,276	1/18/94	Kwok	345	167	7/10/92
*	5,296,846	3/22/94	Ledley	345	161	10/5/92
*	5,296,871	3/22/94	Paley	345	163	7/27/92
*	5,313,230	5/17/94	Venolia et al.	345	163	7/24/92
*	5,317,336	5/31/94	Hall	345	164	1/23/92
*	5,355,148	10/11/94	Anderson	345	166	1/14/93
*	5,374,942	12/20/94	Gilligan et al.	345	157	8/12/93
*	5,381,080	1/10/95	Schnell et al.	318	566	2/18/93
*	5,389,865	2/14/95	Jacobus et al.	318	568.11	12/2/92
*	5,396,266	3/7/95	Brimhall	345	161	6/8/93
*	5,398,044	3/14/95	Hill	345	145	12/7/93
*	5,405,152	4/11/95	Katanics et al.	273	438	6/8/93
*	5,414,337	5/9/95	Schuler	318	561	6/11/93
*	5,457,479	10/10/95	Cheng	345	163	6/13/94
*	5,473,344	12/5/95	Bacon et al.	345	163	
*	5,477,237	12/19/95	Parks	345	156	7/14/94
*	5,491,477	2/13/96	Clark et al.	341	20	9/13/93
*	5,513,100	4/30/96	Parker et al.	364	167.01	6/10/93
*	5,530,455	6/25/96	Gillick et al.	345	163	8/10/94
*	5,541,379	7/30/96	Kim	200	566	1/18/95
*	5,542,672	8/6/96	Meredith	463	37	3/17/95
*	5,543,821	8/6/96	Marchis et al.	345	167	7/20/94
*	5,576,727	11/19/96	Rosenberg et al.	345	179	6/5/95
*	5,589,828	12/31/96	Armstrong	341	20	3/5/92
*	5,589,854	12/31/96	Tsai	345	161	6/22/95

Examiner:

Date Considered:

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Form 1449 (Modified)		Atty Docket No.: IMM1P044A	Application No.: 09/678,110
Information Disclosure Statement By Applicant		Applicant: Rosenberg et al.	
(Use Several Sheets if Necessary)		Filing Date: 10/2/01	Group: 2675

O P E J C I T Y  
MAY 28 2004  
U.S. PATENT AND TRADEMARK OFFICE

### U.S. Patent Documents

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*	5,591,082	1/7/97	Jensen et al.	463	38	1/5/95
*	5,623,582	4/22/97	Rosenberg	395	99	7/14/94
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<b>Form 1449 (Modified)</b>	<b>Atty Docket No.:</b> IMM1P044A	<b>Application No.:</b> 09/678,110
<b>Information Disclosure Statement By Applicant</b>	<b>Applicant:</b> Rosenberg et al.	
<i>(Use Several Sheets if Necessary)</i>	<b>Filing Date:</b> 10/2/01	<b>Group:</b> 2675

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**Foreign Patent or Published Foreign Patent Application**

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Form 1449 (Modified)		Atty Docket No.: IMM1P044A	Application No.: 09/678,110
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Examiner Initial	Author, Title, Date, Place (e.g. Journal) of Publication
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## **Other Documents.**

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